

Catalogue of American Amphibians and Reptiles.

Fellers, G.M. and C.A. Drost. 1991. *Xantusia riversiana*.

***Xantusia riversiana* Cope**
Island Night Lizard

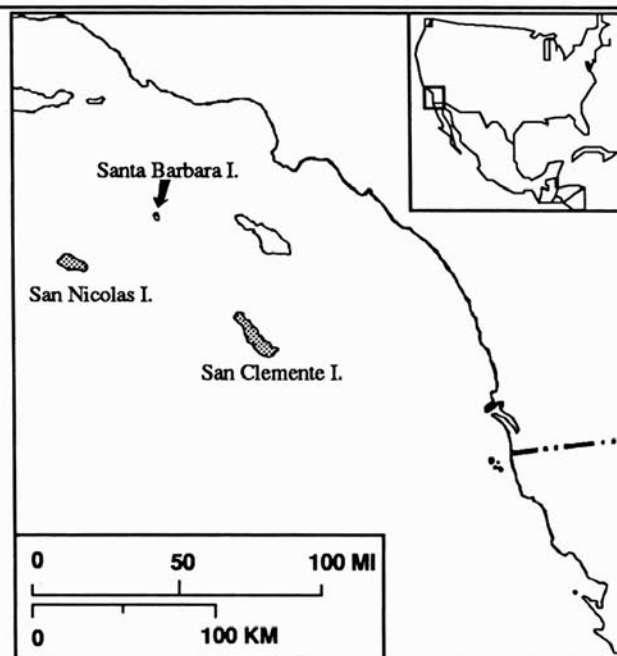
Xantusia riversiana Cope, 1883 (1884):29. The name *Xantusia riversiana* was first used without description in an address by Cope (Anon., 1879:801). Type-locality was given as "unknown, beyond that it is Californian." Later restricted to San Nicolas Island, [Ventura Co.] California by Rivers (1889). Holotype, Museum of Vertebrate Zoology (MVZ) 8278, adult (sex unknown), collected in July, 1863 by J.G. Cooper (examined by GMF).

Klauberina riversiana: Savage, 1957:83. See Nomenclatural History.

• **Content.** Two subspecies are recognized: *riversiana* and *reticulata*.

• **Definition.** *Xantusia riversiana* is a large xantusiid (maximum SVL 102 mm in males, 109 mm in females) with 16 longitudinal rows of ventral scales, 60 - 92 dorsal scales at midbody, two rows of supraoculars above each eye, one frontonasal, two frontals, and two parietals (Bezy et al., 1980; Savage, 1957, 1963). The body scales are smooth and the caudal scales are faintly keeled (Savage, 1957). The teeth are strongly triconodont. The eye is large with a vertically elliptical pupil and lacks movable eyelids (Cope, 1900). *Xantusia riversiana* is viviparous with a definite placental connection (Savage, 1963). The sexes are not dimorphic. Dorsal color pattern is highly variable, most commonly mottled or reticulated, but occasionally plain or striped. Dorsal coloration ranges from light gray (infrequent) to olive-brown (most common) to dark brown or black. Olive individuals are fairly common on Santa Barbara Island, but absent on San Clemente and San Nicolas Islands, whereas reddish-brown individuals are absent from Santa Barbara Island, but predominate on the other two islands (Bezy et al., 1980; Fellers and Drost, 1991; Savage, 1955; Van Denburgh, 1897).

• **Diagnosis.** *Xantusia riversiana* is distinguished from its congeners by having sixteen rows of ventral scales and two rows of supraoculars.



Map. Range of *Xantusia riversiana*. The type-locality is too imprecise to plot.

• **Descriptions.** Details of external morphology, scale counts, and coloration have been described by Bezy et al. (1980), Cope (1883, 1900), Savage (1955, 1957, 1963), and Van Denburgh (1895, 1922). General descriptions have been published by Behler and King (1979), Smith (1946a), and Stebbins (1954, 1972, 1985). Bezy (1972) described the karyotype (2N = 40, with 18 macrochromosomes and 22 microchromosomes).

• **Illustrations.** Behler and King (1979), Bezy (1989), and



Figure. Adult female *Xantusia riversiana* from Santa Barbara Island. Photographed in March 1981 by G.M. Fellers.

Steinhart (1990) presented color photographs. Black and white photographs have been published by Bezy (1988), Bezy et al. (1980), Fellers and Drost (1982, 1991), Smith (1946a), and Van Denburgh (1922). Stebbins (1954, 1985) and Van Denburgh (1897, 1905) provided line drawings of the entire animal. Hecht (1956) provided a line drawing of the lower jaw. Specific morphological aspects were illustrated as follows: scalation (Cope, 1900; Savage, 1963); scale microstructure (Peterson and Bezy, 1985); hyoid muscles (Camp, 1923); hyoid (Cope, 1892); skull (McDowell and Bogert, 1954; Savage, 1963); cochlear duct (Miller, 1966); pectoral girdle (Savage, 1963); brain (Rodriguez and La Pointe, 1969, 1970); pars intermedia (Rodriguez et al., 1971); visual cells (Walls, 1942). Bezy (1972) and Bezy et al. (1980) illustrated the karyotype. Van Denburgh (1922) included a black and white photograph of an individual with a bifurcated tail. Bezy (1989) provided a color photograph of typical habitat.

• **Distribution.** *Xantusia riversiana* occurs on San Clemente, San Nicolas, and Santa Barbara Islands off the coast of southern California. It is also known from one small islet (Sutil Island) 1.3 km offshore from Santa Barbara Island (Bezy et al., 1980). Early literature erroneously reported *X. riversiana* from Santa Catalina Island as well (Rivers, 1889; Van Denburgh, 1897). Its occurrence there was disputed by Van Denburgh and Slevin (1914) and no specimens are known from that island.

• **Fossil Record.** None, but the Eocene Wyoming fossil *Paleoxantusia* was described as being intermediate between *Klauberina* (= *X. riversiana*) and *Xantusia* (= *X. vigilis* and *X. henshawii*) (Savage, 1963).

• **Pertinent Literature.** The systematics and biogeography of *X. riversiana* were discussed by Bezy et al. (1980), Bezy and Sites (1987), Crother et al. (1986), Savage (1951, 1955, 1957, 1967), and Sites et al. (1986).

Camp (1923) provided a general discussion of morphology. Osteology was studied by Brinkman (1980), Cope (1892), and Savage (1963), and external morphology by Savage (1963) and Van Denburgh (1922). Aspects of scalation were presented by Bezy et al. (1980). Etheridge (1967) discussed caudal vertebrae, and Greer (1976) and Miller (1966) reported on the structure of the ear and cochlear duct, respectively. Structure and function of the endocrine portion of the lower brain was studied by Rodriguez and La Pointe (1969, 1970) and Rodriguez et al. (1971). DeWolfe and Telford (1966) reported on testis histology, and Peterson and Bezy (1985) discussed scale microstructure.

Fellers and Drost (1991) conducted an extensive ecological study of *X. riversiana* on Santa Barbara Island. They discussed growth, ecdysis, size distribution, longevity, injury rates, food habits, seasonal and daily activity, movement, home range, habitat, color and color patterns, predation, density, and population size. Mautz (in press) reported on growth and energetics, movement, habitat, and density for *X. riversiana* on San Clemente Island. Bezy (1989) and Regal (1968) provided descriptive data on habitat relationships. Additional food data are presented by Brattstrom (1952), Knowlton (1949), and Schwenkmeyer (1949). Behavior is discussed by Fellers and Drost (1989, 1991); movement, diurnal and seasonal activity peaks, Regal (1966, 1967, 1968, 1974, 1978; thermal behavior, activity rhythms, locomotor activity, and social behavior), and Van Denburgh (1919; diurnal activity). Bowler (1977) notes a minimum age of 5.3 years for a captive *X. riversiana* (wild-caught as an adult).

Xantusia riversiana are viviparous and have a definite placental connection between the female parent and developing embryo (Savage, 1963). Other studies of reproduction include fecundity (Amrein and Amrein, 1951; Brattstrom, 1951; Bezy et al., 1980; Shaw, 1949), proportion of females bearing young (Fellers and Drost, 1991), and annual cycle (Goldberg and Bezy, 1974). Brattstrom (1965) reported some body temperature data, and Regal (1970) discussed thermoregulation. Guttman (1971) provided some data on hemoglobin electrophoresis, and Pough (1977) discussed oxygen affinity of the blood. Johnson and Lillywhite (1979) reported on digestive efficiency. Mautz (1979, 1980, 1982, in press) discussed metabolism, energetics, and water loss. Endocrine physiology was studied by La Pointe (1969), La Pointe and Jacobson (1974), and La Pointe and Rodriguez (1974).

Fellers and Drost (1991) reported on ticks and chiggers parasitizing *Xantusia riversiana*. Coccidian parasites are discussed by Amrein (1952), Bovee and Telford (1965a, 1965b), and Goldberg and

Bursey (1990). Goldberg (1984) studied cestodes, and Fellers and Drost (1991), Lucker (1951), Read and Amrein (1952), Telford (1965), and Yamaguti (1961) studied nematodes; the latter included a comprehensive key. Lefcourt and Blaustein (1991) related parasite load and brightness. Telford (1970) provided a general discussion of endoparasitism.

• **Nomenclatural History.** Savage (1957) placed *Xantusia riversiana* in the monotypic genus *Klauberina* (in honor of Laurence M. Klauber). Bezy (1972) argued for retaining the species in the genus *Xantusia* based on karyotypic analyses. Most recent authors have adopted this usage, but the issue has not been fully resolved (see Crother et al., 1986). We have followed Bezy's placement of the species, based on the relatively small karyotypic and electrophoretic differences between *X. riversiana* and mainland *Xantusia* (Bezy, 1972; Bezy et al., 1980; Bezy and Sites, 1987). The early nomenclatural history of the species is summarized by Klauber (1931).

• **Etymology.** The patronym *riversiana* honors J.J. Rivers of the University of California. The name *reticulata* (from the Latin *reticula*, meaning "networks") refers to the dorsal pattern.

• **Comment.** In spite of the common name, "Island Night Lizard," all available evidence indicates that *Xantusia riversiana* are strictly diurnal (Fellers and Drost, 1991; Regal, 1968). "Island Spectacled Lizard" has been proposed as a more appropriate common name for the species (Regal, 1968), but this has not been generally accepted (e.g. Banks et al., 1987; Collins, 1990; Laudenslayer and Grenfell, 1983).

Smith (1946b) described *X. riversiana reticulata* from San Clemente Island based on a single specimen and compared it with three *X. riversiana* from San Nicolas Island. The characteristics used to differentiate the subspecies were shown to be unreliable in separating lizards from any of the three islands (Savage, 1951). Subsequently, Savage (1955) revived the name *X. riversiana reticulata* (for lizards on San Clemente and Santa Barbara Islands). Savage (1963) and Wermuth (1965) both included the subspecific names *X. riversiana reticulata* and *X. riversiana riversiana* on their lists of xantusiids.

Bezy et al. (1980) found differences between the island populations by using multivariate analysis of several morphological and physiological characters, but did not comment on the status of the subspecies. Bezy et al. (1980) outlined additional characters of scalation, coloration, body size, and clutch size which show significant differences among all three islands, but they also noted that genetic distance among the three populations is small. San Clemente and Santa Barbara are closest with respect to both morphological characters and genetic distance, and San Nicolas is most distant compared to either of the other two islands.

1. *Xantusia riversiana riversiana* Cope

Xantusia riversiana Cope, 1883 (1884):29. See species account.
Xantusia riversiana riversiana: Smith, 1946b:392. First use of trinomial.

• **Definition.** Longitudinal dorsal scales rows usually < 72 (63-78, \bar{x} = 70.2); transverse scale rows < 131 (117-138, \bar{x} = 124.7).

2. *Xantusia riversiana reticulata* Smith

Xantusia riversiana reticulata Smith, 1946b:392. Type-locality, "San Clemente Island, [Los Angeles County, California]." Holotype, National Museum of Natural History (USNM) 124381 (Cochran, 1961), adult (sex unknown), collected during the summer of 1940 by C.W. Kern (not examined by authors).

• **Definition.** Longitudinal dorsal scales rows usually > 72 (73-82, \bar{x} = 77.6 for San Clemente, 73-86; \bar{x} = 81.6 for Santa Barbara); transverse scale rows > 130 (132-153, \bar{x} = 142.2, San Clemente; 142-152, \bar{x} = 147.8, Santa Barbara).

Literature Cited

Amrein, Y.U. 1952. *Eimeria cystis-felleae* var. *americana*, n. var. in southern California lizards. J. Parasitol. 38:183-184.
— and M.B. Amrein. 1951. The number of young found in the Is-

- land Night Lizard. *Copeia* 1951:180.
- Anon. 1879. Proceedings of scientific societies. California Academy of Sciences, November 3. *Amer. Nat.* 13:800-801.
- Banks, R.C., R.W. McDiarmid, and A.L. Gardner (eds.). 1987. Checklist of vertebrates of the United States and U.S. Territories, and Canada. U.S. Fish Wildl. Serv., Resour. Publ. (166):ii + 79 p.
- Behler, J.L. and F.W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York.
- Bezy, R.L. 1972. Karyotypic variation and evolution of the lizards in the family Xantusiidae. *Contrib. Sci., Nat. Hist. Mus. Los Angeles Co.* (277):1-29.
- . 1988. The natural history of the night lizards, family Xantusiidae, p. 1-12. In H.F. De Lisle, P.R. Brown, B. Kaufman, and B.M. McGurty (eds.), *Proceedings of the Conference on California Herpetology*. Southwest. Herpetol. Soc. Spec. Publ. (4). Van Nuys, California.
- . 1989. Night lizards: the evolution of habitat specialists. *Terra* 28:29-34.
- , G.C. Gorman, G.A. Adest, and Y.J. Kim. 1980. Divergence in the Island Night Lizard *Xantusia riversiana* (Sauria: Xantusiidae), p. 565-583. In D.M. Power (ed.), *The California Islands: Proceedings of a Multidisciplinary Symposium*. Santa Barbara Nat. Hist. Mus., Santa Barbara, California.
- and J.W. Sites, Jr. 1987. A preliminary study of allozyme evolution in the lizard family Xantusiidae. *Herpetologica* 43:280-292.
- Bovee, E.C. and S.R. Telford, Jr. 1965a. A coccidian, *Eimeria* sp., from the California night lizard, *Xantusia riversiana*. *Trans. Amer. Microsc. Soc.* 84:150-151.
- and —. 1965b. *Eimeria noctisauris* sp. n., a coccidian from the lizard, *Klauberina riversiana*. *J. Parasitol.* 51:325-330.
- Bowler, J.K. 1977. Longevity of reptiles and amphibians in North American collections as of 1 November, 1975. *SSAR Herp. Circ.* (6):iv + 32 p.
- Brattstrom, B.H. 1951. The number of young of *Xantusia*. *Herpetologica* 7:143-144.
- . 1952. The food of the nightlizards, genus *Xantusia*. *Copeia* 1952:168-172.
- . 1965. Body temperatures of reptiles. *Amer. Midl. Nat.* 73:376-422.
- Brinkman, D. 1980. Structural correlates of tarsal and metatarsal functioning in *Iguana* (Lacertilia; Iguanidae) and other lizards. *Can. J. Zool.* 58:277-289.
- Camp, C.L. 1923. Classification of the lizards. *Bull. Amer. Mus. Nat. Hist.* 48:289-481.
- Cochran, D. M. 1961. Type specimens of reptiles and amphibians in the U.S. National Museum. *Bull. U.S. Natl. Mus.* (220):xv + 291 p.
- Collins, J.T. (ed.). 1990. Standard common and current scientific names for North American amphibians and reptiles. 3rd ed. *SSAR Herp. Circ.* (19):iii + 41 p.
- Cope, E.D. 1883 (1884). Notes on the geographical distribution of Batrachia and Reptilia in western North America. *Proc. Acad. Nat. Sci. Philadelphia*. 35:10-35.
- . 1892. The osteology of the Lacertilia. *Proc. Amer. Philos. Soc.* 30:185-221.
- . 1900. The crocodilians, lizards, and snakes of North America. *Ann. Rept. U.S. Natl. Mus.* 1898:153-1270.
- Crother, B.I., M.M. Miyamoto, and W.F. Presch. 1986. Phylogeny and biogeography of the lizard family Xantusiidae. *Syst. Zool.* 35:37-45.
- DeWolfe, B.B. and S.R. Telford, Jr. 1966. Lipid-positive cells in the testis of the lizard, *Cnemidophorus tigris*. *Copeia* 1966:590-592.
- Etheridge, R. 1967. Lizard caudal vertebrae. *Copeia* 1967:699-721.
- Fellers, G.M. and C.A. Drost. 1982. Life history notes (coloration): *Xantusia riversiana*. *Herpetol. Rev.* 13:95.
- and —. 1989. Fluorescent powder - a method for tracking reptiles. *Herpetol. Rev.* 20:91-92.
- and —. 1991. Ecology of the Island Night Lizard, *Xantusia riversiana*, on Santa Barbara Island, California. *Herpetol. Monogr.* (5):28-78.
- Goldberg, S.R. 1984. Larval cestodes (*Mesocostoides* sp.) in the liver of the Island Night Lizard, *Xantusia riversiana*. *J. Wildl. Dis.* 21:310-312.
- and R.L. Bezy. 1974. Reproduction in the Island Night Lizard, *Xantusia riversiana*. *Herpetologica* 30:350-360.
- and C.R. Bursey. 1990. Prevalence of *Eimeria noctisauris* (Apicomplexa: Eimeriidae) in the Island Night Lizard, *Xantusia riversiana* (Xantusiidae). *J. Herpetol.* 24:204-207.
- Greer, A.E. 1976. On the occurrence of a stapedial foramen in living non-geckonid lepidosaurs. *Copeia* 1976:591-592.
- Guttman, S.I. 1971. An electrophoretic analysis of the hemoglobins of Old and New World lizards. *J. Herpetol.* 5:11-16.
- Hecht, M. K. 1956. A new xantusiid lizard from the Eocene of Wyoming. *Amer. Mus. Novitates* (1774):1-8.
- Johnson, R.N. and H.B. Lillywhite. 1979. Digestive efficiency of the omnivorous lizard *Klauberina riversiana*. *Copeia* 1979:431-437.
- Klauber, L.M. 1931. A new species of *Xantusia* from Arizona, with a synopsis of the genus. *Trans. San Diego Soc. Nat. Hist.* 7:1-16.
- Knowlton, G.F. 1949. Food of the Island Night Lizard. *Herpetologica* 5:45-46.
- La Pointe, J.L. 1969. Effect of ovarian steroids and neurohypophyseal hormones on the oviduct of the viviparous lizard, *Klauberina riversiana*. *J. Endocrinol.* 43:197-205.
- and E.R. Jacobson. 1974. Hyperglycemic effect of neurohypophyseal hormones in the lizard, *Klauberina riversiana*. *Gen. Comp. Endocrinol.* 22:135-136.
- and E.M. Rodriguez. 1974. Fat mobilization and ultrastructural changes in the peritoneal fat body of the lizard, *Klauberina riversiana*, in response to long photoperiod and exogenous estrone or progesterone. *Cell Tissue Res.* 155:181-192.
- Laudenslayer, W.F., Jr. and W.E. Grenfell, Jr. 1983. A list of amphibians, reptiles, birds and mammals of California. *Outdoor California Jan.-Feb.*:5-14.
- Lefcourt, H. and A.R. Blaustein. 1991. Parasite load and brightness in lizards: an interspecific test of the Hamilton and Zuk hypothesis. *J. Zool. (London)* 224:491-499.
- Lucker, J.T. 1951. Some new *Thelandros* (Nematoda; Oxyuridae) from the Island Night Lizard, *Xantusia riversiana reticulata* Smith, from San Clemente Island, California. *J. Parasitol.* 37(5, Sect. 2):14-15.
- Mautz, W.J. 1979. The metabolism of reclusive lizards, the Xantusiidae. *Copeia* 1979:577-584.
- . 1980. Factors influencing evaporative water loss in lizards. *Comp. Biochem. Physiol.* 67A:429-437.
- . 1982. Correlation of both respiratory and cutaneous water losses of lizards with habitat aridity. *J. Comp. Physiol.* 149:25-30.
- . In press. Ecology and energetics of the Island Night Lizard, *Xantusia riversiana*, on San Clemente Island. In F.G. Hochberg (ed.), *Recent advances in California island research*. Proc. Third California Islands Symposium, Santa Barbara Nat. Hist. Mus., Santa Barbara, California.
- McDowell, S.B., Jr. and C.M. Bogert. 1954. The systematic position of *Laniarius* and the affinities of the anguimorph lizards. *Bull. Amer. Mus. Nat. Hist.* 105:1-142.
- Miller, M.R. 1966. The cochlear duct of lizards. *Proc. California Acad. Sci., 4th Ser.*, 33:255-359.
- Peterson, J.A. and R.L. Bezy. 1985. The microstructure and evolution of scale surfaces in xantusiid lizards. *Herpetologica* 41:298-324.
- Pough, F.H. 1977. The relationship of blood oxygen affinity to body size in lizards. *Comp. Biochem. Physiol.* 57A:435-441.
- Read, C.P. and Y.U. Amrein. 1952. Some new oxyurid nematodes from Southern California. *J. Parasitol.* 38:379-384.
- Regal, P.J. 1966. Thermophilic response following feeding in certain reptiles. *Copeia* 1966:588-590.
- . 1967. Voluntary hypothermia in reptiles. *Science* 155:1551-1553.
- . 1968. An analysis of heat-seeking in a lizard. Ph.D. Diss., Univ. California at Los Angeles.
- . 1970. Long term studies with operant conditioning techniques, of temperature regulation patterns in reptiles. *J. Physiol. (Paris)* 63:403-406.
- . 1974. Circadian and low frequency rhythms in the temperature preference of a lizard, p. 709-711. In L.E. Scheving, F. Halberg, and J.E. Pauly (eds.), *Chronobiology*. Igaku Shoin Ltd., Tokyo.
- . 1978. Behavioral differences between reptiles and mammals: an analysis of activity and mental capabilities, p. 183-202. In N. Greenberg and P.D. MacLean (eds.), *Behavior and neurology of lizards*. DHEW Publ. (ADM) 77-491, Rockville, Maryland.
- Rivers, J.J. 1889. Habitat of *Xantusia riversiana* Cope. *Amer. Nat.* 23:1100.
- Rodriguez, E.M. and J.L. La Pointe. 1969. Histology and ultrastructure of the neural lobe of the lizard, *Klauberina riversiana*. *Z. Zellforsch. Mikrosk. Anat.* 95:37-57.

- and —. 1970. Light and electron microscopic study of the pars intermedia of the lizard, *Klauberina riversiana*. Z. Zellforsch. Mikrosk. Anat. 104:1-13.
- , —, and H.D. Dellmann. 1971. The nervous control of the pars intermedia of an amphibian and a reptilian species, p. 827-837. In H. Heller and K. Lederis (eds.), Subcellular organization and function in endocrine tissues. Mem. Soc. Endocrinol. (19), Cambridge Univ. Press, London.
- Savage, J.M. 1951. Studies on the lizard family Xantusiidae, II: geographical variation in *Xantusia riversiana* from the Channel Islands of California. J. Washington Acad. Sci. 41:357-360.
- . 1955. The lizard family Xantusiidae: an evolutionary study. Ph.D. Diss., Stanford Univ., Palo Alto, California.
- . 1957. Studies on the lizard family Xantusiidae. III. A new genus for *Xantusia riversiana* Cope, 1883. Zoologica 42:83-86.
- . 1963. Studies on the lizard family Xantusiidae. IV. The genera. Contr. Sci., Nat. Hist. Mus. Los Angeles Co. (71):1-38.
- . 1967. Evolution of the insular herpetofaunas, p. 219-227. In R.N. Philbrick (ed.), Proceedings of the symposium on the biology of the California islands. Santa Barbara Botanic Garden, Santa Barbara, California.
- Schwenkmeyer, R.C. 1949. Food habits of the Island Night Lizard, *Xantusia riversiana reticulata*, from San Clemente Island. Nat. Hist. Misc., Chicago Acad. Sci. (38):1-3.
- Shaw, C.E. 1949. Notes on broods of two xantusiids. Herpetologica 5:23-26.
- Sites, J.W., Jr., R.L. Bezy, and P. Thompson. 1986. Nonrandom expression of lactate dehydrogenase isozymes in the lizard family Xantusiidae. Biochem. Syst. Ecol. 14:539-545.
- Smith, H.M. 1946a. Handbook of lizards: lizards of the United States and Canada. Comstock Publ. Co., Inc., Ithaca, New York.
- . 1946b. A subspecies of the lizard *Xantusia riversiana*. J. Washington Acad. Sci. 36:392-393.
- Stebbins, R.C. 1954. Amphibians and reptiles of western North America. McGraw-Hill Book Co., New York.
- . 1972. Amphibians and reptiles of California. California Nat. Hist. Guides. (31):1-152 p.
- . 1985. A field guide to western reptiles and amphibians. 2nd ed. Houghton Mifflin Co., Boston.
- Steinhart, P. 1990. California's wild heritage: threatened and endangered animals in the golden state. California Dept. Fish and Game, Sacramento.
- Telford, S.R., Jr. 1965. New species of the oxyurid nematode genus *Pseudoalaeuris* from California lizards. Japan. J. Exp. Med. 35: 99-109.
- . 1970. A comparative study of endoparasitism among some southern California lizard populations. Amer. Midl. Nat. 83:516-554.
- Van Denburgh, J. 1895. The species of the genus *Xantusia*. Proc. California Acad. Sci., Ser. 2, 5:523-534.
- . 1897. The reptiles of the Pacific Coast and Great Basin; an account of the species known to inhabit California, and Oregon, Washington, Idaho and Nevada. Occas. Pap. California Acad. Sci. (5):1-236 p.
- . 1905. The reptiles and amphibians of the islands of the Pacific coast of North America from the Farallons to Cape San Lucas and the Revilla Gigedos. Proc. California Acad. Sci., Ser. 3, 4:1-40.
- . 1919. A note on *Xantusia riversiana*. Copeia (75):91-92.
- . 1922. The reptiles of western North America, vol. I. Lizards. Occas. Pap. California Acad. Sci. (10):1-611.
- and J.R. Slevin. 1914. Reptiles and amphibians of the islands of the west coast of North America. Proc. California Acad. Sci., Ser. 4, 5:129-151.
- Walls, G.L. 1942. The vertebrate eye and its adaptive radiation. Bull. Cranbrook Inst. Sci. (19):xiv + 785 p.
- Wermuth, H. 1965. Das Tierreich, Lieferung 80, Liste der rezenten Amphibien und Reptilien. Gekkonidae, Pygopodidae, Xantusiidae. Walter de Gruyter & Co., Berlin.
- Yamaguti, S. 1961. Systema Helminthum. Vol. 3, parts 1 & 2. The nematodes of vertebrates. Interscience Publ., Inc., New York.

Gary M. Fellers, Point Reyes National Seashore, Point Reyes, CA 94956 and **Charles A. Drost**, Department of Environmental Studies, University of California, Davis, CA 95616.

Primary editor for this account, Andrew H. Price.

Published 15 October 1991 and Copyright © 1991 by the Society for the Study of Amphibians and Reptiles.
